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January 1928

Test 152: Twin City Model FT 21-32

Tractor Museum

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UNIVERSITY OF NEBRASKA AGRICULTURAL ENGINEERING DEPARTMENT

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Copy of Report of Official Tractor Test No. 152

Dates of test: Oct. 1st to 8th, 1928

Name, model and rating of tractor: Twin City "FT" 21-32

Manufacturer: Minneapolis Steel & Machinery Co., Minneapolis, Minn.

BRAKE HORSE POWER TESTS

:Crank	:	Fuel Consumption	:	Water consumption	:	Temp.	:		:
:shaft	:		:	per hour gallons	:	Deg. F.	:	Barometer	:
H. P.:	speed	:Gals.	:H. P.:	Lbs. @	:Cool-:In	:	Cool-:	:	Inches of
:R.P.M.	:per	:hrs. @	:H.P.	:ing	:fuel	:Total	:ing	:Air	:mercury
:	:hour	:gal.	:hour	:	:	:	:med.	:	:

OPERATING MAXIMUM LOAD TEST. ONE HOUR (98% OF MAXIMUM LOAD)

39.14	:	1075	:	3.984	:	9.82	:	0.631	:	0.0	:	0.0	:	0.0	:	191	:	68	:	28.47
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RATED LOAD TEST. ONE HOUR

32.37	:	1075	:	3.539	:	9.15	:	0.678	:	0.0	:	0.0	:	0.0	:	192	:	73	:	28.52
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*VARYING LOAD TEST. TWO HOURS

32.43	:	1077	:	3.561	:	9.11	:	0.681	:	:	:	:	:	193	:	75	:	28.52	:	
0.93	:	1110	:	1.597	:	0.58	:	10.645	:	:	:	:	:	174.5	:	74.5	:	28.52	:	
16.51	:	1094	:	2.381	:	6.93	:	0.894	:	:	:	:	:	185.5	:	77	:	28.52	:	
32.86	:	1070	:	3.561	:	9.23	:	0.672	:	:	:	:	:	185	:	78.5	:	28.52	:	
8.39	:	1103	:	1.848	:	4.54	:	1.366	:	:	:	:	:	194.5	:	79.5	:	28.52	:	
24.58	:	1087	:	2.932	:	8.38	:	0.740	:	:	:	:	:	196	:	80.5	:	28.52	:	
19.46	:	1087	:	2.647	:	7.35	:	0.843	:	:	:	:	:	188	:	77	:	28.52	:	

*20 minute runs. Last line is average for two hours.

DRAW BAR HORSE POWER TESTS

:Draw	:	Speed:	Crank	:	Slip	:	Fuel Consumption	:	Water:	:	Temp.	:		:
:Bar	:	miles:	shaft	:	on	:		:	used	:		:		:
H. P.:	pull	:per	:speed	:	drive	:	:Gal.	:H.P.:	Lbs.:	:Gal.	:Cool-:	Air	:	Barometer
:	:pounds:	:hour	:R.P.M.	:	:wheels:	:per	:hr.	:per	:H.P.:	:hour	:med.	:	:	Inches of
:	:	:	:	:	%	:	:hour	:per	:H.P.:	:hour	:	:	:	mercury
:	:	:	:	:	:	:	:gal.	:hour	:	:	:	:	:	:

RATED LOAD TEST. TEN HOURS. Intermediate GEAR.

22.58	:	2499	:	3.39	:	1075	:	5.42	:	3.440	:	6.56	:	0.945	:	0.09	:	174	:	85	:	28.61
-------	---	------	---	------	---	------	---	------	---	-------	---	------	---	-------	---	------	---	-----	---	----	---	-------

MAXIMUM LOAD TEST

30.20	:	3335	:	3.40	:	1073	:	6.39	:	----	:	Not Recorded	:	----	:	164	:	79.5	:	28.90
29.16	:	4716.5	:	2.32	:	1066	:	12.63	:	"	:	"	:	"	:	172	:	83.5	:	28.79
27.73	:	2176.5	:	4.78	:	1075	:	4.26	:	"	:	"	:	"	:	175	:	77	:	28.90

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. XII Type 4 Cylinder Vertical
Head "I" Mounting Lengthwise
Bore and stroke: 4 1/2 x 6 in. Rated R.P.M. 1075
Port Dia. Valves: Inlet 1 13/16" Exhaust 1 3/4"
Belt pulley: Diam. 16 in. Face 7 1/2 in. R.P.M. 651
Magneto: Robert Bosch Model "FU4"
Carburetor: Stromberg Model "M3" Size 1 1/2"
Governor: Own No. - - - - - Type Fly-ball
Air Cleaner: Donaldson & Own Type Dry centrifugal & Cypress Moss
Lubrication: Pressure

CHASSIS: Type 4 Wheels Serial No. X4 Drive Enclosed Gear
Clutch: Twin Disc Type Dry plate Operated by Hand
Advertised speeds, miles per hour: Low 2.36
Intermediate 3.17 High 4.45 Reverse 1.74
Drive wheels: Diameter 50 Face 12
Lugs: Type Spade No. per wheel 36 Size 3 1/2"x3"x2 5/8"
Extension rims: Width 8" Seat Pressed Steel
Total weight as tested (with operator) 6463 pounds.

FUEL AND OIL

Fuel: Gasoline Weight per gallon 6.20
Oil: Mobiloil To fill crankcase 3 Gallons
Additional amount used during test 4.5 gallons
Total number of hours of test 44

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REPAIRS AND ADJUSTMENTS

Before the maximum belt test was run, the packing gland nut on the water pump was tightened. During the maximum low gear drawbar test, the clutch was adjusted.

REMARKS

The tests herein reported were conducted with one carburetor setting which remained unchanged throughout the tests. This condition should be recognized when comparing this test with any Nebraska test conducted prior to 1928.

In the advertising literature submitted with the specifications and application for test of this tractor we find no claims and statements which, in our opinion, are unreasonable or excessive.

The results of this test indicate that the rating of this tractor does not exceed the provisions of the tractor rating code of the American Society of Agricultural Engineers and the Society of Automotive Engineers.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 152.

Low Wallace
Engineer-in-Charge

Oscar W. Sjogren

E. E. Brackett

C. W. Smith

Board of Tractor Test Engineers